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Mr. McCrory attended the North Atlantic section of the A.S.A.E. at Ithaca, New York on October 9. He also attended the Farm Equipment Institute at Chicago on October 10 and delivered a paper on Tillage Machinery Investigations.

During the latter part of September and the first week in October Geo. R. Boyd inspected the work being done in farm development in Michigan and Minnesota, and conferred with Geo. R. Shier and N.A. Kessler regarding this work. At St. Paul Mr. Boyd addressed a special meeting of the student branch of the A.S.A.E. on the subject of agricultural engineering as a profession.

Later Mr. Boyd conferred with O. M. Page at Cairo, Ill. and visited Memphis, Tenn. and Oxford, Miss., in connection with the appraisal of land for the War Department's flood control work.

Lewis A. Jones visited Havana, Ill., where he attended a meeting of the supervising personnel of nine CCC drainage camps located in Illinois, Iowa, and Missouri. He reports actual maintenance work under way at all of the camps, with the local people very much interested in the work. J.G. Sutton, district engineer of the central region, in charge of CCC camps, was with Mr. Jones at Havana and accompanied him to southeastern Missouri where a similar meeting was held. Mr. Sutton reports that local drainage district officials are displaying a fine spirit of cooperation in connection with the CCC camp work and have already signed cooperative agreements under which 19 dragline machines are furnished to the camps free of charge.

CCC Drainage Camps authorized for the sixth enrollment period (beginning October 1) are as follows: Delaware, 2; Illinois, 6; Indiana, 8; Iowa, 5; Kentucky, 2; Louisiana, 5; Maryland, 3; Missouri, 6; and Ohio, 9. The Bureau lost only two camps during the recent curtailment of activities which reduced the total number of camps from approximately 2,950 to 2,500. Notice has been received from the War Department that the enrollees for the last two camps to be established for the Bureau will be in camp prior to October 31.

E. Gregson Brown has been appointed assistant drainage engineer with headquarters at Houma, La., where he will supervise the work on the drainage of sugar cane land formerly conducted by B.O. Childs. Mr. Childs is now supervising the work of five CCC drainage camps in Louisiana with headquarters at Alexandria, La.

Mr. Geo. Sawyer, superintendent of the CCC drainage camps at Oakville, Iowa, for the past month, has been located at Georgetown, Dela. where he has assisted in organizing and starting the work of the camps in Delaware and Maryland. It is expected that he will return to his duties at Oakville soon after the first of November.

Following the report made by Carl Rohwer on the possibility of providing storage to supplement the supply of water for irrigation of the LaPlata Basin in Colorado (mentioned in the Monthly News Letter of Nov. 25, 1934) the Federal Government has allocated \$262,152 for construction of a dam on the LaPlata River north of Farmington, Colo. near the Colorado-New Mexico line, which will make it possible to store water flowing down the river in the winter and from this stored water supply the needs of New Mexico farmers, thereby releasing the stream flow during the growing season for the use of Colorado farmers. The reservoir will open the way toward building up a farming community on the upper LaPlata which area is now threatened each year with drought and crop destruction.

A brief field investigation and a report on the soil and agricultural possibilities of a proposed irrigation project at Spray in Wheeler County, Oregon, was made by M. R. Lewis. The landowners had made application for a PWA loan and grant, and a report on the agricultural features was needed.

A two-week study of the water supply available for proposed wild life refuges near Mud Lake in Jefferson County, Idaho, and Red Rock Lakes in Beaverhead County, Montana, was completed by Fred C. Scobey. Such refuges developed by the Bureau of Biological Survey require the establishment and maintenance of open pools or lakes and also extensive marshes as nesting places for waterfowl.

Further studies on a special setting of the vortex tube sand trap are being conducted by R. L. Parshall and Carl Rohwer at the Bellvue laboratory, Colo., to determine if it is possible to improve the present design of the tube. They are studying the width of gap and elevation of downstream lip as related to the tube diameter. Mr. Parshall also has given special attention to the design of a suitable 25-foot Parshall measuring flume to measure 1,800 to 2,000 second-feet for the Twin Lakes outlet channel near Leadville, Colo.

Progress on the snow-survey and stream-flow-forecasting project includes the establishment during the past few months of 40 snow courses in Idaho, 11 in Nevada, 32 in Oregon, 51 in Wyoming, and 42 in Colorado.

In connection with the project on underground storage of water, Dean C. Muckel reports concerning the present status of the underground water supply in southern California that some feeling of alarm has spread over certain sections of the area due to the continued recession of water levels in spite of the rather wet season of 1934-35. Water levels in basins lying nearest the foothills, where water-spreading has been carried on, are in most instances higher than they were at this time last year. Water levels in the larger valley basins showed smaller rises and in some instances the recession has been only temporarily halted.

With reference to the results of studies of furrowing equipment developed by Colin A. Taylor for use in citrus orchards, Mr. Taylor states that in the early years of our experimental irrigation treatments, furrows placed in under the trees were shoveled in laboriously by hand after each disking. Now they are made by machine and weeds are controlled without breaking down the furrows. The irrigation methods on the plots are carried out as if under practical commercial operation. While searching out the fundamental reactions of the lemon tree to its moisture supply, it has been our aim to make the treatments and methods used entirely applicable to commercial situations. Irrigation and cultivation are so

closely interconnected that it has been necessary to control both operations. Weeds grow more rapidly on frequently irrigated plots and must be controlled in order to avoid the introduction of an additional unmeasured variable. The permanent-furrow system was adopted as the most practical, and machinery has been developed to take care of the weeds with a minimum of soil disturbance.

Don H. Bark, former irrigation engineer with the Bureau, was killed recently in an automobile accident in southwestern Idaho.

The U. S. Cotton Ginning and Fiber Laboratories had an exhibit at the Southeastern Fair, Atlanta, Georgia, during the first week in October. R. C. Young represented this Bureau at the exhibit.

The new cotton-ginning stroboscope, purchased by the Bureau for the study of high-speed ginning phenomena, has been given preliminary tests and is showing that the brushes of cotton gins do not bend backward during operation. It is also indicating some new and very interesting actions of the fibers during the ginning process. The instrument was specially constructed for the Bureau by an American firm of instrument makers and is calibrated for speeds between 15,000 r.p.m. and 500 r.p.m. So far as is known, this instrument with its special attachments is the only "cotton-ginning stroboscope" in the world.

Statistical work on results of this year's ginning tests is progressing faster than previous schedules, and is disclosing important findings in saw spacing and tooth-pitch studies.

R.B. Gray attended the annual meeting of the Farm Equipment Institute in Chicago, October 9 to 11, where he conferred with a number of implement manufacturers. Mr. Gray spent several days at Auburn, Ala., inspecting the tillage machinery laboratory and equipment, where he also conferred with Professor M.L. Nichols of Auburn and Dr. H.B. Walker of Davis, Calif., relative to the research program in connection with the laboratory. After inspecting field work at Stoneville, Miss., and Urbana, Ill. Mr. Gray will attend the Agricultural Engineering Field Day at Ames, Iowa, where he will deliver a brief address.

W.M. Hurst and W. R. Humphries left Washington on October 11 to study commercial soybean harvesting machinery in Mississippi and several southeastern States. Particular attention is being given to the performance of small combines under the somewhat adverse harvesting conditions encountered in Mississippi. The operation of row harvesters, including a recent row combine, will be observed in the southeastern area.

An Agricultural Engineering Field Day program under the direction of C. K. Shedd is planned for October 25 at Ames, Iowa, for the purpose of explaining and demonstrating the work on the Corn Production Machinery Project. If weather and ground conditions permit, about half of the day will be spent in field demonstration of the following procedures and machines: clean plowing; planting and cultivating corn by the basin lister method; check-row equipment for four-row planters; one-man corn harvesting crew using two-row picker and wagon train, the wagons equipped with telescoping tongues; experimental corn picker; and gleaning tests to determine field losses with corn pickers.

A number of counts are being made by S. W. McBirney in connection with sugar-beet harvester tests in California to determine the losses of beets following hand and mechanical harvesting. These counts are showing an average loss of from 2 to 3 percent following hand harvesting as compared to mechanical harvesting losses ranging down from 2 percent in sedimentary soils to a fraction of 1 percent in peat lands. The losses on some hand harvested fields where the supervision is slack and the crew careless were startling. Merely reducing the loss of such fields to 2 percent would pay a foreman's wages several times.

E. M. Dieffenbach is designing and constructing a new type cut-off for easy operation of large spray guns under high pressures. Power for operating the cut-off will be supplied by a small portion of the liquid by use of a hydraulic piston.

Landscaping, paving, and fencing of the Farm Tillage Machinery Laboratory grounds at Auburn, Ala., are in progress with funds provided by the Works Progress Administration.

Wallace Ashby attended the meeting of the North Atlantic Section of the American Society of Agricultural Engineers at Ithaca, N.Y., where plans for the North Atlantic plan exchange service were discussed. This service will be inaugurated in the near future with the aid of the Bureau.

Mr. Ashby next visited Madison, Wisc., where he discussed a proposed farmhouse project with Professor E. R. Jones and other officials of the Wisconsin Agricultural College. This proposed project was also discussed with Professor M. L. Nichols of the State Agricultural College at Auburn, Alabama.

Bulletins published: none.